

# Musculoskeletal Diagnostics and Pain Management

*We offer sub-specialized, multidisciplinary diagnostic imaging and minimally invasive, image-guided procedures to care for your patient's musculoskeletal and spinal needs.*

## Clinical Assessment

We are pleased to offer a multidisciplinary service for your patients. Whether they have a musculoskeletal or spinal concern, we coordinate a clinical assessment by our specialty colleagues and appropriate imaging to direct the most appropriate patient management.

## Peripheral Neuropathy

Peripheral nerve symptoms can be complicated. We provide dedicated, sub-specialized peripheral nerve ultrasound assessment which can clarify clinical presentations, augment results from nerve conduction studies, and direct further management.

Perineural injections are performed to provide diagnostic confirmation about location of nerve irritation, and provide symptomatic relief. These are interpreted and performed by musculoskeletal radiologists.

## Peripheral Vasculopathy

Peripheral arterial or vascular diseases, including venous reflux or popliteal artery entrapment, are often best initially assessed by vascular ultrasound. These studies are performed and reviewed by interventional/vascular radiologists who provide further care and management direction.

A LOOK AT

# MSK AND SPINAL CARE

Mayfair's experienced and sub-specialized radiologists, and our clinical speciality colleagues, provide a comprehensive musculoskeletal (MSK) and spine care pathway.

## Joint Therapies

We advise an initial steroid injection (for confirmation of the source of symptoms, and to reduce inflammation), then possibly progressing to hyaluronic acid/viscosupplement injections (for a nonsteroidal, more durable response). Biologic injections (nSTRIDE) can also be considered for a durable response.

We perform these injections using low-dose fluoroscopic guidance to ensure contrast freely flows through the joint before introducing the treatment, thereby limiting intra-articular complications and maximizing patient benefit.

### CORTISONE (STEROID) INJECTIONS

This medication is used to decrease joint inflammation and reduce pain. This treatment is performed under X-ray guidance to ensure a safe intra-articular location. Corticosteroid injections are effective as initial therapy for osteoarthritis or inflammatory arthritis, and relief may last 3-6 months. If successful, repeat injections can be considered, although repeated steroid injections have been linked to cartilage thinning and can cause AVN/rapidly progressive OA. After initial steroid injections, non-steroidal injections should be considered. For patients with adhesive capsulitis, or decreased range of motion, this can be augmented with hydrodialtion to release intra-capsular scarring (i.e., frozen shoulder). For patient safety, we monitor the total steroid dose and will provide alternate suggestions if a maximal annual dose is exceeded.

### NSTRIDE AUTOLOGOUS PROTEIN SOLUTION\*

nSTRIDE autologous protein solution (APS) is a novel treatment with encouraging evidence demonstrating prolonged relief from symptoms of osteoarthritis (OA), recently approved by Health Canada.

This involves a single intra-articular injection of prepared APS containing concentrated anti-inflammatory cytokines derived from the patient's own blood. This has proven to be a safe and effective treatment designed to stimulate the body to preserve and possibly repair joint cartilage. As a result, patients experience decreased pain and improved mobility often within a few weeks and lasting months. In clinical studies, patients reported ~70% symptom improvement even 24 months after the treatment. This study is ongoing.

X-rays are required within six months of the treatment. nSTRIDE APS treatment is most effective in treatment of mild to moderate OA, but can be still performed for those with more advanced disease. Please note that this treatment is not available for patients with inflammatory arthritis and Mayfair will screen each patient prior to treatment.

### VISCOSUPPLEMENT (HYALURONIC ACID) INJECTIONS\*

Hyaluronic acid (HA) is present in healthy cartilage and injections improve mobility, reduce pain, and stimulate joints to produce even more HA. Injections of HA relieve symptoms from OA and can treat mechanical dysfunction in joints, such as nondisplaced meniscal tears or patellofemoral pathology. Injections can be safely performed in almost any joint, and symptom relief can last up to 12 months.

We provide various HA products (Durolane, Monovisc, Synvisc, Cingal and others) onsite at cost.† Most are covered by health insurance plans and we provide all relevant information to patients for reimbursement. For maximum relief, we advise an initial diagnostic steroid injection at least two weeks before HA injections (except Cingal).

## Soft Tissue Therapies

*These procedures are performed under ultrasound-guidance for safety and best results.*

### **CORTISONE (STEROID) INJECTIONS**

Steroid is effective to treat inflammation of a bursa or around a tendon (tenosynovitis). If successful, repeat injections can be performed, although non-steroidal therapies should be ultimately considered. Repeated steroids can weaken tendons, or result in refractory symptoms. In cases of local scarring/fibrosis resulting in recurrent symptoms, this can be augmented by saline therapy/hydrodilatation therapy (i.e., Achilles tendinosis).

### **TENOTOMY/FASCIOTOMY (NEEDLE FENESTRATION THERAPY)**

This treatment helps inflamed or torn tendons, fascia, or ligaments through a process similar to acupuncture. Using a small needle, tiny holes are made under guidance to stimulate local healing. This is an effective treatment for nonretracted tendon tears, tendinopathy, fasciitis, or ligament sprains. An initial diagnostic ultrasound is required, and a diagnostic injection with steroid is advised before this procedure is performed. Common sites of therapy include lateral epicondylitis, plantar fasciitis, or rotator cuff tendinopathy. For a more robust healing, these treatments can be augmented by PRP (see below).

### **PLATELET-RICH PLASMA (PRP)\***

PRP injections are a safe and effective treatment used to speed the healing of new injuries, or to repair chronic injuries. Platelet-rich plasma (PRP) is prepared from the patient's own blood and injected with a fenestrated needling technique under image guidance to stimulate the tissues. It has been proven effective for chronic tendon and ligament injuries, and it speeds up the healing of new injuries. We arrange a follow-up ultrasound six months after the treatment for re-assessment, and to plan additional procedures if required. A single treatment is often adequate with results apparent starting at four weeks and healing continuing over months.

### **TENDON CALCIFICATION THERAPY**

Calcium can often build up in tendons and tissues near a joint, which causes pain and makes movement difficult. Treating this calcium can help permanently reduce pain. We use ultrasound to

localize the deposit and remove the calcium with a needle. After the treatment, a local steroid is injected to reduce inflammation. We arrange a follow-up ultrasound six months after the treatment for reassessment, and to plan additional procedures if required. Calcium deposits must meet specific size criteria to be amenable to this procedure. We advise a diagnostic bursal steroid injection before this procedure is considered.

## Spinal Therapies

Mayfair offers pre-injection assessment for patients with spinal chronic pain conditions. Simply select the "Pre-Injection Assessment" checkbox on our pain therapy requisition. Our pain management booking specialist will have the patient complete a spine assessment and, if further assessment is needed, we will refer to our specialty colleagues.



## EPIDURAL INJECTIONS

An epidural injection into the spinal canal treats lower back symptoms related to canal narrowing or nerve compression from a disc herniation or degenerative disease. Using X-ray guidance, we inject an anesthetic and steroid around nerves into the spinal canal (interlaminar) or exiting the spinal canal (transforaminal) to help relieve symptoms. Patients often experience relief within 3-7 days, which can last 3-6 months and, in some cases, even longer. We require a prior MRI to confirm exact pathology, select the best injection site, and avoid unnecessary procedure complications.

## FACET/SACROILIAC JOINT (STEROID) INJECTIONS

This treatment can relieve focal back pain generated by inflammation or arthritis at these joints. A bone scan with SPECT/CT can be considered to accurately identify active joint inflammation if there is clinical uncertainty. These injections typically relieve pain for 3-6 months. If successful, repeat injections can be performed, although other, longer lasting treatments, such as radiofrequency ablation, may be appropriate.

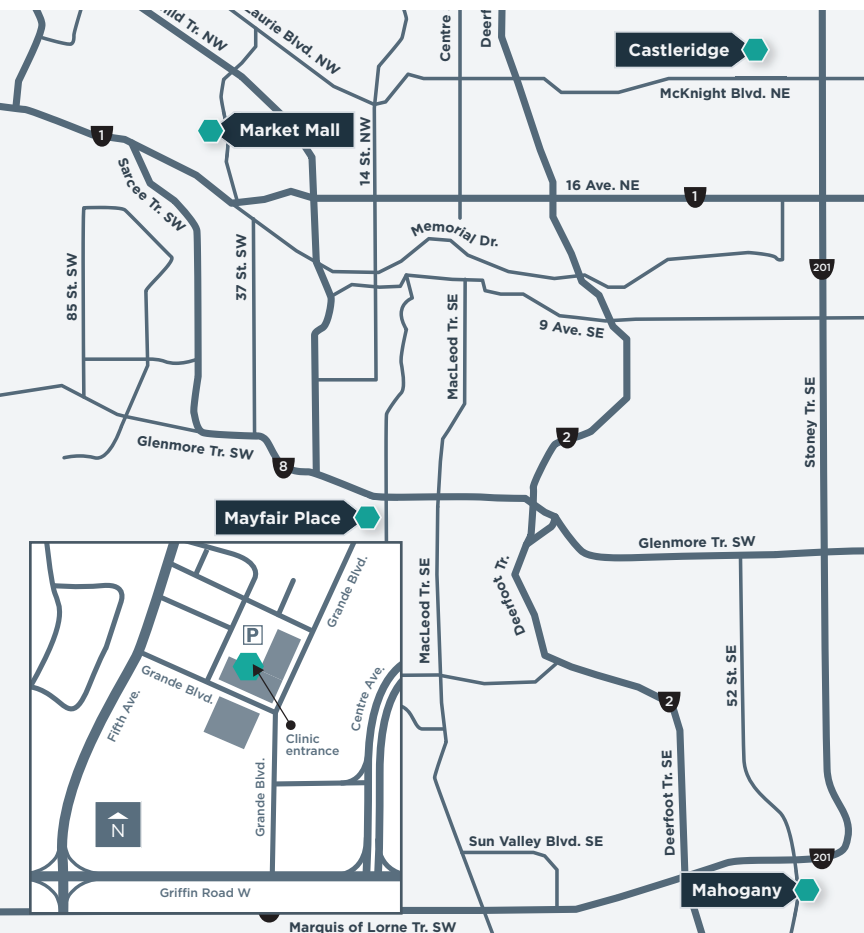
## RADIOFREQUENCY ABLATION (RFA)

This treatment uses radiofrequency energy to heat tissue in a very small area (5 mm) to nullify the specific pain nerves feeding facet joints, a common cause of back pain. We target these nerves based on the results of previous diagnostic injections to the medial branch nerves. We use X-ray guidance to precisely place a small needle next to the targeted nerve and then radiofrequency waves are generated at the needle tip. Patients often experience facet joint symptom relief for 9-18 months. Patients must have medial branch block testing to confirm appropriateness of RFA for their symptoms.

*\* These procedures include a cost that is NOT covered by Alberta Health Care.*

*† Medications are provided at cost, but prices vary depending on dosage and manufacturer.*

*For the most up-to-date fee information for pain management, contact [paintherapy@radiology.ca](mailto:paintherapy@radiology.ca)*



## Mayfair Diagnostics Clinic Locations



**PAIN MANAGEMENT  
LOCATIONS**

### Market Mall Professional Building

333, 4935 - 40 Ave. NW

### Castleridge Plaza

20, 55 Castleridge Blvd. NE

### Mahogany Village

230, 3 Mahogany Row SE

### Mayfair Place

132, 6707 Elbow Dr. SW

### Cochrane

Unit 1123, 116 Grande Blvd  
Cochrane

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